UNITED STATES PATENT AND TRADEMARK OFFICE

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER
PATEL, ANAND B

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/684,768
Filing Date: October 14, 2003
Appellant(s): CHHEDA ET AL.

MAILED

JUL 17 2007

Technology Center 2100

Paul Grunzweig
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/15/07 appealing from the Office action mailed 10/10/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US Patent No 6226699 to Humpherys et al (hereinafter Humpherys)

US Patent No 6789206 to Wierzbicki et al (hereinafter Wierzbicki)

US Patent Application Publication No 2004/0403345 to Dunstan (hereinafter Dunstan)

US Patent No 6613984 to Hensley (hereinafter Hensley)

US Patent No 7126821 to Patel et al (hereinafter Patel)

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections

set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2. Claims 1-2, 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humpherys, in

view of Wierzbicki.

- As per claims 1, 13, Humpherys discloses a server (10) comprising:

  - An electronic switching mechanism (150, 155) disposed on the card (figures 2, 3) and

    configured to cause three power states of the card including:

    - A fully-operational state in which a system power of the card is enabled (150 chooses

      120) and a standby power of the card is enabled (155 chooses 130);

    - A standby state in which the system power of the card is disabled (150 chooses 130) and

      the standby power of the card is enabled (155 chooses 130); and

    - A shutdown state in which the system power of the card is disabled (system off) and the

      standby power of the card is disabled (system off).

Humpherys fails to disclose a server card. Wierzbicki teaches a server card (11) that is removable insertable into a server chassis (13) and comprising at least one of a blade server and a brick server (figure 2). An advantage of the system taught by Wierzbicki is the ability to produce a computing element that is cheaper and user-friendlier than the prior art. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Humpherys with the server card as taught by Wierzbicki. Motivation to modify is to cut costs and increase user control and understandability.

- As per claim 2, Humpherys discloses a server management circuitry (160) configured for communication with the electronic switching mechanism for managing the power states of the server card (figure 3; column 4, lines 36-38).

- As per claim 12, Wierzbicki teaches wherein the server card (11) comprises an electronic user interface (53) configured for communication with the switching mechanism to cause switching between power states of the server card (column 7, lines 18-21; figure 9 lists power states).

3. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humpherys, in view of Wierzbicki and Dunstan.

- As per claim 9, Humpherys fails to disclose a server card, a watchdog timer, and a means for operating system shutdown. Wierzbicki teaches a server card (11). Wierzbicki fails to disclose a watchdog timer, and a means for operating system shutdown. Dunstan teaches:

  - An operating system (306) stored in a memory (308); and

  - A watchdog timer (303) in communication with the operating system (figure 3) and configured to be activated upon a transition from the fully operational state to the standby state (200-202; paragraph 8) and configured to cause the operating system to shut down, prior to the system power being disabled, in event that operating system does not shutdown within a predetermined period of time (figure 2; paragraphs 23, 25).

An advantage of the system taught by Dunstan is the ability to ensure proper shutdown of a computer (paragraph 8). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Humpherys and Wierzbicki with the watchdog timer and operating system shutdown method as taught by Dunstan. Motivation to modify is to increase system reliability.

- As per claim 10, Dunstan teaches a management circuitry (302) in communication with the watchdog timer (figure 3) and configured to monitor progress of the shutdown of the operating system (figure 2).

(10) Response to Argument

1. Appellant argues with respect to claim 1 that Humpherys supplements power to the remote power management board 55 independent of the power state of the server. Examiner disagrees with this characterization of the reference. Element 55 was not used in the rejection of claim 1. Humpherys discloses a server with a mechanism on a card that controls the power state of the card. This mechanism (150, 155) in the disclosed server (10) was relied upon in the rejection to meet the claim limitation. Appellant further argues that Humpherys' controlling is done independent of the power state of the server. This is not a claim limitation and is not germane to this discussion.

2. Appellant argues with respect to claim 1 that the circuitry of the Humpherys patent does not control the power states of the server or the server card. Examiner agrees. Humpherys by itself was not relied upon to meet this limitation. Rather, the Humpherys disclosure, taken together with the teachings of Wierzbicki, makes obvious to one of ordinary skill in the art the process of controlling the power states of the server card. Moreover, controlling power states of the server is not part of the claimed invention and thus does not constitute a pertinent argument.

3. Appellant argues with respect to claim 1 that Wierzbicki fails to disclose a server card and particularly a blade server or a brick server. Examiner disagrees. The Examiner provides Hensley as

evidence of the ordinary and customary meaning of the claim terminology "blade server." Hensley states that "[b]lade server are comprehensive computing systems that include processor, memory, network connections, and associated electronics." Hensley further states that blade servers do not have to be installed in systems that share common resources (column 1, lines 33-47). That blade servers are typically installed in such a way does not limit one of ordinary skill in the art from using them in systems that do not share common resources, as is the case in the Humpherys patent. Indeed, it seems that appellant's definition of a blade server for one of ordinary skill is unduly narrow. As further evidence that appellant's definition of a blade server is overly limiting, the Examiner provides the Patel reference. Patel teaches, in a patent assigned to the appellant's corporation, that "server blade 502 includes ... two fans" (column 5, lines 10-13; figure 5). The teachings of Hensley and Patel provide concrete evidence reinforcing the Examiner's position that one of ordinary skill in the art at the time of invention would have interpreted a blade server as including element 11 of the Wierzbicki patent.

4.   Examiner disagrees with appellant's having "clearly defined" a blade server as not containing a cooling unit. Appellant points to various embodiments in the instant specification that "in the context of the present patent application" define a blade server as not containing a cooling unit. Examiner notes that there is no specific definition of a blade server. A server card is defined as being a "blade server or brick server, or other high density server module residing on a circuit card that is removably insertable into a server chassis and that has server computing components... separate from elements on the server chassis 14 that are shared with multiple server cards." However appellant did not explicitly define the server card as a high density server module residing on a circuit card that is removably insertable into a server chassis and that has server computing components separate from elements on the server chassis that are shared with multiple server cards. The blade server does not need to be identical to the other high density server module and thus, with the teachings of Hensley, Patel, and the knowledge of one of ordinary skill in the art, a blade server could be reasonably interpreted as including bulkier hardware (i.e. a cooling unit).

5. Appellant argues that Wierzbicki does not disclose an electronic switching mechanism. Examiner agrees. Humpherys is used to disclose that limitation.

6. Appellant argues that there is no motivation to combine Humpherys and Wierzbicki. Examiner disagrees. As discussed above, Wierzbicki teaches computing elements that are cheaper than those realized in the prior art. One of ordinary skill in the art would be motivated to find ways to make his or her invention more cost-effective. One of ordinary skill in the art would also be motivated to find ways to make his or her product more user-friendly and therefore, marketable. The scope of the motivation is not part of the 103 rejection analysis. The rejection must only include motivation that would prompt one of ordinary skill to combine the teachings of the two references.

7. Appellant argues with respect to claim 13 that Humpherys supplements power to the remote power management board 55 independent of the power state of the server. Examiner disagrees with this interpretation. The rejection of claim 1 included a disclosure by Humpherys of a server with a mechanism on a card that controls the power state of the card. There is no mention of element 55 in the rejection above. Appellant further argues that the controlling of the power state of the card is independent of the power state of the server. Examiner fails to see the significance of this argument. The claim is a method of managing power for at least one server card. The method comprises activating multiple power states of a server card. There is no limitation directed towards a relation between the server card and the power state of the server.

8. Appellant argues with respect to claim 13 that the circuitry of the Humpherys patent does not control the power states of the server or the server card. Examiner agrees. The claim does not contain any limitations directed towards the power states of the server. Humpherys discloses a mechanism to control the power state of a system. This disclosure, combined with Wierzbicki to modify the system to be a server card, would lead one of ordinary skill in the art at the time of invention to the instant invention.

9. Appellant argues with respect to claim 13 that Wierzbicki fails to disclose a server card and

particularly a blade server or a brick server. Appellant cites articles and states that he has "defined, in

both the description and Figures of the application, a server card and a server chassis in which certain

bulkier resources, such as a cooling unit, are ... shared among multiple server cards." Examiner disagrees

with the argument and the contention that the server card was defined to specifically exclude certain

bulkier components. Examiner interpreted appellant's one definition (page 3, line 20) to mean that the

server card could be a blade server. Examiner interpreted the other "definitions" as being embodiments

of the instant invention. Examiner took the position that one of ordinary skill in the art at the time of

invention would interpret the server card taught by Wierzbicki as being a blade server. Evidence is

provided in Hensley, who states that blade servers do not have to be installed in systems that share

common resources (column 1, lines 33-47). The frequency of blade servers being installed using shared

resources does not preclude one of ordinary skill in the art from using blade servers in systems that do not

share common resources, especially when evidence exists to reinforce this point. Patel teaches a "server

blade ... includes ... two fans". Thus, a blade server does not inherently need to omit cooling units or

other bulky resources. This teaching is incorporated into the knowledge of one of ordinary skill in the art,

who would be able to use this knowledge, along with the teachings of Humpherys and Wierzbicki to

make obvious the instant invention.

10. Appellant argues that Wierzbicki does not disclose an electronic switching mechanism. Examiner

agrees. Humpherys is used to disclose that limitation, as discussed above.

11. Appellant argues that there is no motivation to combine Humpherys and Wierzbicki. Examiner

disagrees. Humpherys and Wierzbicki both deal with power control in computer systems. Both patents

are related to servers. Wierzbicki teaches computer devices that are cheaper than those taught in the prior

art. One of ordinary skill in the art would be motivated to find ways to make his or her invention more

cost-effective. One of ordinary skill in the art would also be motivated to find ways to make his or her

product more user-friendly and therefore, marketable. Wierzbicki deals with these two issues. Thus, one of ordinary skill in the art, given both the Humpherys and Wierzbicki patents, would see a shared field of endeavor and specific motivations (cost-cutting and user-friendliness) for combining teachings of these two references.

12. Appellant argues that Dunstan does not teach an electronic switching mechanism. Examiner agrees. Humpherys discloses this mechanism as discussed in the rejection above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Anand B. Patel

Conferees:

REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
7/11/07

Rehana Perveen

Lynne Browne

Appeals Practice Specialist, TQAS

Technology Center 2100